



Mosquito Control at Craney Island



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Norfolk District





Integrated Pest Management (IPM)



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- **Source Reduction**
 - Land management activities to reduce mosquito habitat.
 - Herbicides
- **Surveillance**
- **Larvae Control**
 - Natural predators (i.e. mosquito fish)
 - Pesticides
- **Adult Control**
 - Aerial Spraying



Current Status of IPM



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– Environmental Assessment (EA)

- A supplement to the 1996 EA was finalized in February 2005.
- Two additional larvicides and two herbicides are now available for mosquito control operations.
- A Finding of No Significant Impact (FONSI) was signed 15 Feb 05.



Current Status of IPM



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– Control / Surveillance Contracts

- Contract for mosquito surveillance and ground control measures was awarded to Angel Systems, Inc.
- Contract for aerial application of larvicides and herbicides was awarded to Summit Helicopters, Inc.
- Budget in fiscal year 2005 for these contracts was \$145,000.



Implementation of IPM



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– Larvae Control

- Treated 2.5 miles of ditch with 150-day larvicide on 25 Feb 05.
- Large population of mosquito fish in south ditches.
- Backpack and truck spraying of Bti and Bs in standing water harboring mosquito larvae. (~45 acres treated)



Implementation of IPM



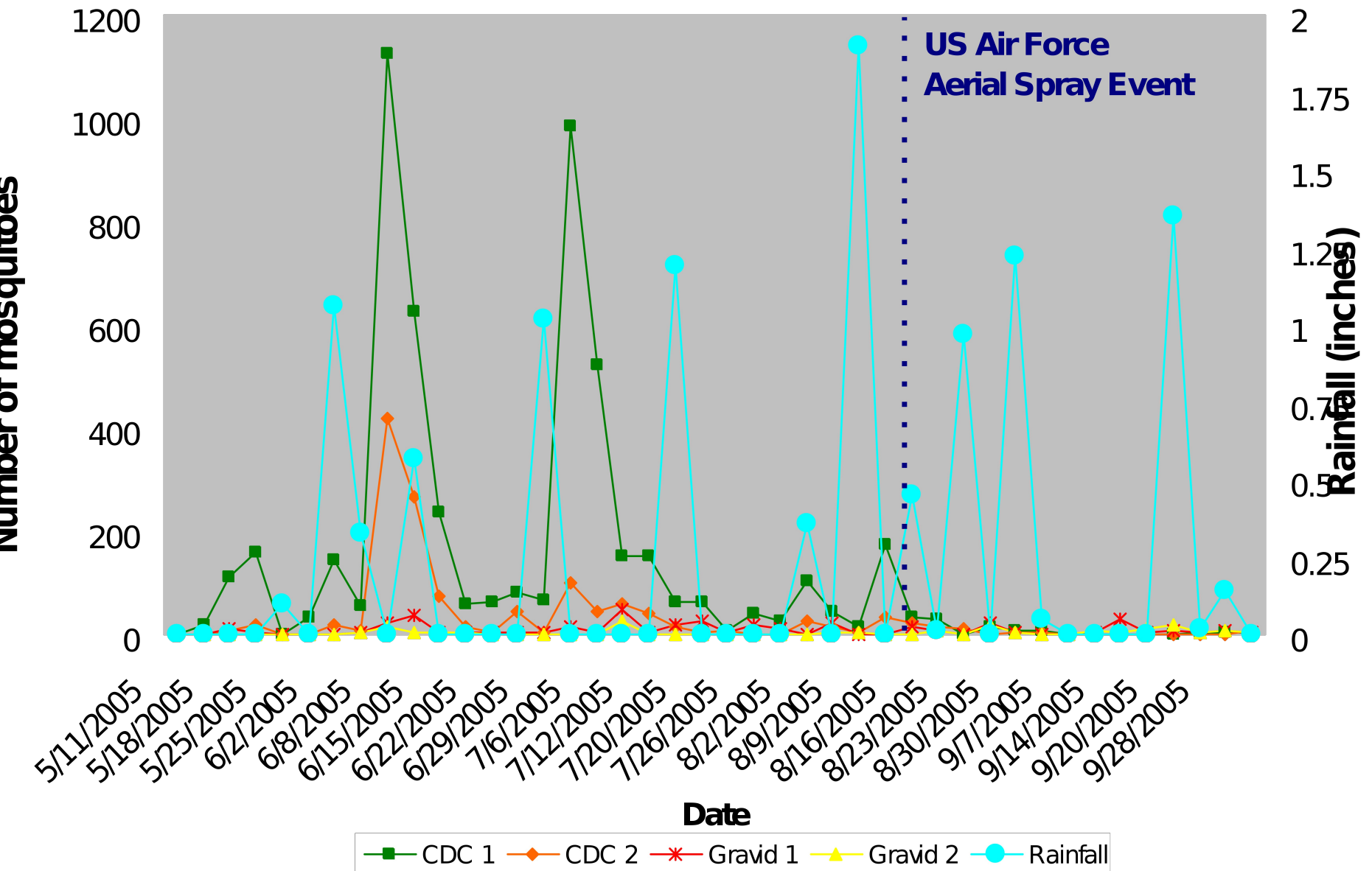
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- **Adult Control**

- USAF scheduled 4 flights for last season. Only one flight was conducted, which occurred in mid-August.
- Used 2 CDC light traps and 2 gravid traps to identify mosquito abundance and species. For 2006, we will use 4 CDC light traps and no gravid traps.

Adult mosquito trap counts vs. rainfall

Craney Island May - September 2005





Implementation of IPM



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– Source Reduction Efforts

- Removed the invasive reed, *Phragmites*, from ~35 acres along CIDMMA's southern boundary
- Aerial spraying of Habitat herbicide on ~100 acres of *Phragmites* on Craney Island.
- Aggressive grounds maintenance conducted to eliminate areas with high potential to produce mosquitoes.



Before Clearing (14 Dec 04)



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During Clearing (16 Dec 04)



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After Clearing (7 Jan 05)



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Grading to Improve Drainage & Reduce Standing Water



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**Pictures taken 30
Mar 05**



Maintenance Mowing (18 Aug 05)



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Operational Measures (Water Management)



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- Flood containment cells on CIDMMA



**Pictures
taken**

26 Feb 05

14



Phragmites Management (Herbicides)



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- Helicopter application of Habitat



**Pictures
taken**

23 Sep 05

15



Interactive Website



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- Mosquito Control Website:

<http://www.nao.usace.army.mil/mosquitoes/>

- Interactive Map includes aerial imagery, surveillance data, spray areas, and a nautical chart.
- Use of Geographic Information Systems (GIS) to track mosquito surveillance & control measures.



Long Term Plan



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- **Surveillance**
 - **Source Reduction**
 - **Larvae Treatment**
 - **Adult Spraying**



DoD Contacts



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Thank You! Any Questions?



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